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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/869,365      | 09/25/2001  | Mats Boman           | GOTEP044            | 3983             |

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OPPEDAHL AND LARSON LLP  
P O BOX 5068  
DILLON, CO 80435-5068

EXAMINER

GUHARAY, KARABI

ART UNIT PAPER NUMBER

2879

DATE MAILED: 11/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/869,365

Examiner

Karabi Guharay

Applicant(s)

BOMAN ET AL.

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.                      6) ☐ Other: .

***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: -----GAS DISCHARGE TUBE HAVING ELECTRODES WITH CHEMICALLY INERT SURFACE-----.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22-27, and 32-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22, 24-27 (dependent on claim 18) recite the limitation "carbon". There is insufficient antecedent basis for this limitation in the claims.

Claim 23 (dependent on claim 18) recites the limitation "the metal". There is insufficient antecedent basis for this limitation in the claim.

Similarly, claims 32-36 (dependent on claim 28) recite the limitation "carbon". There is insufficient antecedent basis for this limitation in the claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-21, 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Hass et al. (US 4407849).

Regarding claim 18, Haas et al. disclose a gas discharge tube (sealed surge limiter, see Fig 1) comprising at least two electrodes (11 and 12) and at least one hollow insulator (13), wherein the chemically inert surface (graphite coating 21) has been arranged onto the electrodes (lines 39-64 of column 2). Further limitations are method of forming the device, which is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Regarding claims 19-20, 24-25, Hass discloses that the chemically inert surface is selected from carbon, where carbon is present as graphite (lines 63-64 of column 2).

Claims 21,26, recite method of forming the chemically inert surface. The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 27-29, 32, and 35-37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al. as applied to claim 18.

Regarding claim 27, and 36, Haas discloses that the thickness of the carbon layer is 1.5 micron (lines 11-12 of column 12), instead of claimed thickness of 1 micron. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to obtain thickness of 1 micron, since it has been held that discovering an optimum value of a result, effective variable involves only routine skill in the art.

Regarding claims 28, and 35, Haas discloses all the limitations (see rejection of claim 1) except for the limitation of applying the chemically inert surface onto the electrodes using a physical vapor deposition or a chemical vapor deposition, wherein vapor deposition takes place in an atmosphere of methane. However, it is well known that the coatings are formed by various well-known techniques such as PVD or CVD, and also it is well known that plasma enhanced vapor deposition process, deposition takes place in an atmosphere of hydrocarbon like methane, as evidenced by Karner et al. (US 5616373). Thus it would have been obvious design choice for one having ordinary skill in the art at the time the invention was made to adapt any of the art

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recognized techniques of applying coatings such as CVD, in the atmosphere of methane.

Claim 29 recites the same limitations of claim 19. Thus claim 29 is rejected as claim 19 (see rejection of claim 19).

Claims 32, and 37 recite the same limitations of claim 20. Thus claims 32 and 37 are rejected as claim 20 (see rejection of claim 20).

Claims 22-23, 30-31, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al. (US 4407849), in view of Culbertson (US 3604970).

Regarding claims 22, 30, and 33, Hass et al. meet all the limitations of claim 22 and 30, except for a metal in addition to carbon. However, Culbertson discloses a coating for an electrode comprising carbon and metal (lines 21-35 of column 3) in order to obtain a tight adherent coating produced at relatively low temperature (lines 28-31 of column 2). Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to include metal with the carbon to form a chemically inert surface on the electrode, since this will provide better adhesion of the coating.

Regarding claims 23, and 31 Culbertson discloses that the metal is titanium or chromium (line 26 of column 3).

Regarding claim 34, Culbertson discloses that the carbon layer is deposited using sputtering (lines 64-65 of column 3).

#### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure :

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Karner et al. (US 5616373); Huck et al. (US 5547714); Endo et al. (US 6071797):

Above references teach that CVD is a well-known technique in the art of depositing carbon film or coatings in an atmosphere of hydrocarbon like methane.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.G

Karabi Guharay  
Patent Examiner  
Art Unit 2879

  
MICHAEL H. DAY  
PRIMARY EXAMINER